VULCAN

INSTALLATION & OPERATION MANUAL FOR ELECTRIC COUNTERTOP CONVECTION STEAMER

MODEL VSX9000

ML - 52209

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FORM 30842 Rev.A (10-94)

Installation, Operation, and Care of
MODEL VSX9000
ELECTRIC COUNTERTOP CONVECTION STEAMER

KEEP THIS MANUAL

GENERAL

The VSX9000 Steamer is a one-compartment pressureless steam cooker. The steam generator, with 7.5 kw electric heat, maintains the water temperature at approximately 205°F.

High altitude locations a lower temperature is required to achieve atmospheric steaming. Contact your Vulcan-authorized service office to have the thermostat adjusted if the steamer will be operated at high altitudes.

INSTALLATION

UNPACKING

Immediately after unpacking the steamer, check for possible shipping damage. If the steamer is found to be damaged, save the packaging material and contact the carrier within 15 days of delivery.

Prior to installation, verify that the electrical service agrees with the specifications on the machine data plate which is located on the left side panel.

LOCATION

Allow space for plumbing and electrical connections. Minimum clearances are 2" on the sides and 6" on the back for proper air circulation. Allow adequate access for operating and servicing the steamer (36" at the front of the steamer and 12" above the steamer).

LEVELING FEET (STANDARD) **OR 4" ADJUSTABLE LEGS** (Optional)

Thread the four 2" leveling feet shipped in a bag inside the steamer cabinet into the threaded holes on the bottom corners of the steamer. Or, thread the optional 4" adjustable legs into the threaded holes on the bottom corners of the steamer.

LEVELING

Using a spirit level or pan of water in the bottom of the steamer, adjust the leveling feet or the feet on the adjustable legs to level the steamer front-to-back and side-to-side. After the drain is connected, check for level by pouring water onto the floor of the compartment. All water should drain through the opening at the back of the comparment cavity.

ANCHORING STEAMER (Without Legs)

1. Place steamer in the desired location on the leveled countertop and mark four corners. Remove the steamer and drill 1/2" holes as indicated in Fig. 1.

2. Apply a bead of RTV or other equivalent sealant around the bottom perimeter edge of the steamer. If anchoring the steamer, this bottom seal is necessary to meet NSF requirements.

3. Set steamer on counter and bolt down securely with 3/8-16 bolts (not supplied).

STACKING KITS

Follow instructions in the stacking kits when installing stacked convection steamers.

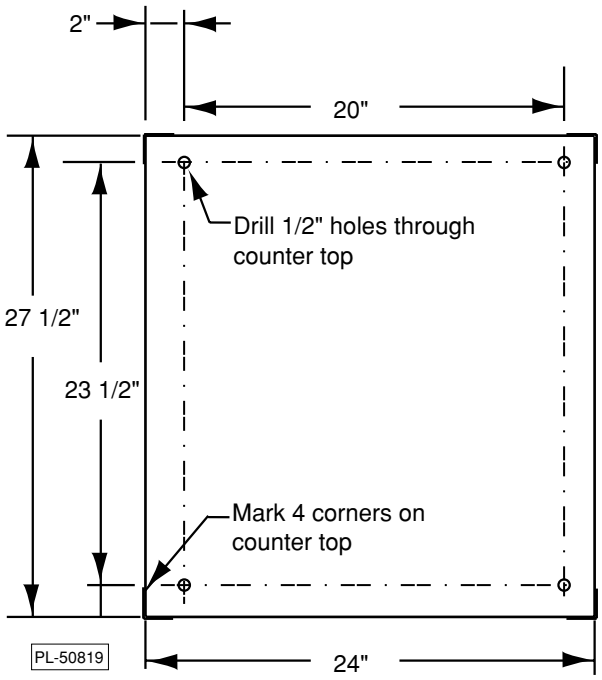

Fig. 1

ELECTRICAL CONNECTIONS

WARNING: ELECTRICAL AND GROUNDING CONNECTIONS MUST COMPLY WITH APPLICABLE PORTIONS OF THE NATIONAL ELECTRICAL CODE AND/OR OTHER LOCAL ELECTRICAL CODES.

WARNING: DISCONNECT ELECTRICAL POWER SUPPLY AND PLACE A TAG AT THE DISCONNECT SWITCH INDICATING THAT YOU ARE WORKING ON THE CIRCUIT.

The wiring diagram is located on the right side panel as you face the steamer.

ELECTRICAL DATA

Total KW	Volts / Hz / Ph	Kilowatts Per Phase			Rated Amps				Circuit Size (Amps)	Fuse Size or Circuit Breaker Size * (Amps)	90°C Copper Wire Size
					3 Phase Amps Per Line Wire			1 Phase Amps			
		L1 - L2	L2 - L3	L1 - L3	L1	L2	L3				
7.5	208 / 60 / 1							36	50	50	8
7.5	240 / 60 / 1							31	45	45	8
7.5	208 / 60 / 3	2.5	2.5	2.5	21	21	21		30	30	10
7.5	240 / 60 / 3	2.5	2.5	2.5	18	18	18		25	25	14
7.5	480 / 60 / 3	2.5	2.5	2.5	9	9	9		15	15	16
									* Dual Element Time-Delay Fuse or Inverse Time Circuit Breaker		

Circuit Size (Minimum) & Fuse / Circuit Breaker Size (Maximum) compiled in accordance with the National Electrical Code (ANSI/NFPA 70), 1993 Edition.

PLUMBING CONNECTIONS

WARNING: PLUMBING CONNECTIONS MUST COMPLY WITH APPLICABLE SANITARY, SAFETY AND PLUMBING CODES.

Connect the water supply line to the 3/8" NPT (internal thread) copper tube input. The 3/8" water line supplies water to both the generator tank and the cooling system where steam is condensed before entering the drain line. Install the line strainer provided. A manual shutoff valve must be provided convenient to the steamer.

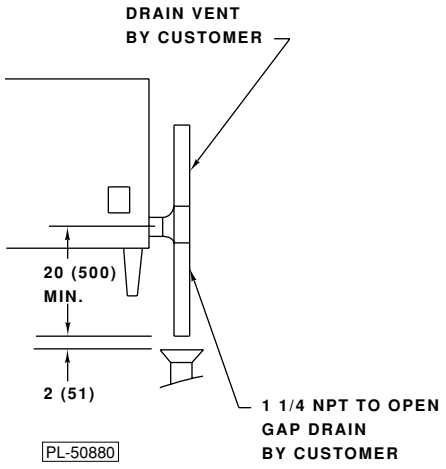

Fig. 2

DRAIN CONNECTIONS

The drain connection (Fig. 2) must be 1" IPS down, preferably with one elbow only, maximum length of 6 feet, and piped to an open gap type drain. **CAUTION**: **In order to avoid any back pressure in the steamer, do not connect solidly to any drain connection.**

WATER QUALITY

The water supply connected to this steamer should contain no more than 2.0 grains of hardness per gallon with a pH from 6.5 to 8.0. This degree of hardness and pH can easily be obtained with the use of a properly maintained water softener.

Water supplies vary from one location to another. A local water treatment specialist be consulted before installing any steam generating equipment.

Untreated water contains scale producing minerals which can precipitate onto the surfaces in the boiler. Due to the temperatures in the boiler, the minerals can bake onto the surfaces and components. This can result in early component failure and reduced product life.

Mineral scale on components causes several problems:

1. The surfaces of the heating devices become coated with scale, reducing the heat transfer efficiency. This can produce hot spots on the heating elements and result in premature failure.
2. The water level probes become coated with scale. Scale will bridge across the probe insulator from the metal extension which senses the water level in the boiler shell. Once this scale becomes wet, the water level control is unable to maintain the proper water level in the boiler. This situation may cause an electric heating element to fail if the element is not adequately covered by water.

Strainers and filters will NOT remove minerals from the water.

Refer to REMOVAL OF LIME SCALE DEPOSITS, page 12.

VENT HOOD

Some local codes may require the steamer to be located under an exhaust hood. Information on the construction and installation of ventilating hoods may be obtained from *Vapor Removal from Cooking Equipment*, NFPA No. 96 (latest edition).

TESTING PROCEDURES

WARNING: THE STEAMER AND ITS PARTS ARE HOT. USE CARE WHEN OPERATING, CLEANING OR SERVICING THE STEAMER. THE COOKING COMPARTMENT CONTAINS LIVE STEAM. STAY CLEAR WHILE OPENING THE DOOR.

Once the steamer is installed and all mechanical connections have been made, thoroughly test the steamer before operation.

1. Check that proper water, drain, and electrical connections have been made.

2. Open water valve. Turn main power switch ON. After approximately 15 minutes, the READY light should come on, indicating that the water temperature is 205°F.

3. When the READY light comes on, turn the dial timer to 5-minutes. With door open, observe that no steam is entering the compartment.

4. Close compartment door. The READY light will turn off and steam should be heard entering the compartment.

5. Check drain line to ensure that water from the cold water condenser is flowing through the drain line.

6. Open compartment door and observe that steam supply to the chamber is cut off. The READY light should come on.

7. Close compartment door and let cooking cycle finish. When timer returns to 0, a buzzer will sound signalling the end of the cooking cycle. To silence the buzzer, turn the dial timer to OFF.

8. To turn the steamer off, turn main power switch OFF — the steam generator will drain. Leave the door open to allow the inside to dry out.

OPERATION

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CONTROLS

Main Power switch

ON The boiler will automatically fill and begin heating to the preset temperature.

OFF The boiler will drain.

Ready Light Indicates the temperature has reached 205°F and that the steamer is ready to begin cooking.

Timer Set the cooking time (0 to 60 minutes) — steam cooking will begin when the door is closed. The cooking cycle will be interrupted if the door is open during the cooking cycle; resume cooking by closing the door.

When done, a buzzer sounds and steam stops being supplied to the cooking chamber. Turn the timer OFF to stop the buzzer.

PREHEAT

Turn the main power switch ON. When the READY light comes on, set the timer to 1 minute to preheat the compartment. This should be done when the steamer is first used for the day or whenever the chamber is cold. The door should be closed during the preheat cycle.

When the buzzer sounds, turn the timer to OFF. The steamer is now ready to cook.

COOK

After the preheat cycle, the READY light should be ON.

Place pans of food in the cooking chamber. Close the door. Set the timer. Steam flows into the compartment. Opening the door will interrupt cooking; resume by closing the door.

At the end of the cooking cycle, the buzzer sounds and steam stops being supplied to the cooking chamber. To stop the buzzer, turn the timer to OFF.

SHUTDOWN

Turn the main power switch OFF — the boiler will automatically blow down. Leave the compartment door open to allow the inside to dry out.

For an extended shutdown, turn the main power switch OFF; turn power and water supply OFF.

COOKING HINTS

The steamer efficiently cooks vegetables or other foods for immediate serving. Steam cooking should be carefully time controlled. Keep hot food holding-time to a minimum to produce the most appetizing results. Prepare small batches, cook only enough to start serving, then cook additional amounts to meet demand.

Preparation

Prepare vegetables, fruits, meats, seafood and poultry normally by cleaning, separating, cutting, removing stems, etc. Cook root vegetables in a perforated pan. Other vegetables may be cooked in a perforated pan unless juices are being saved. Liquids can be collected in a solid 12" x 20" pan placed under a perforated pan.

Perforated pans are used for frankfurters, wieners and similar items when juices do not need to be preserved. Solid pans are good for cooking puddings, rice, and hot breakfast cereals. Vegetables and fruits are cooked in solid pans in their own juice. Meats and poultry are cooked in solid pans to preserve their juice or retain broth.

Canned foods can be heated in their opened cans (cans placed in 12" x 20" solid pans) or the contents may be poured into solid pans. DO NOT place unopened cans in the steamer.

Frozen Food Items

Separate frozen foods into smaller pieces to allow more efficient cooking.

Use a pan cover for precooked frozen dishes that cannot be cooked in the covered containers in which they are packed if they require more than 15 minutes of cooking time. When a cover is used, approximately one-third additional cooking time is necessary.

Cooking time for frozen foods depends on the amount of defrosting required. If time permits, allow frozen foods to partially thaw overnight in a refrigerator. This will reduce their cooking time.

Acceptable Pan Sizes

The steamer accommodates combinations of 12 x 20" pans, solid or perforated.

Model	Number of Pans Accommodated			
	Depth of Pan			
	1"	2.5"	4"	6"
VSX9000	6	3	2	1

DRAINING THE BOILER

Drain the boiler after each day's use to flush out minerals and minimize scale build-up. The boiler drains automatically for about 4 – 6 minutes after the main power switch is turned OFF.

CLEANING

At the end of each day, or between cooking cycles if necessary . . .

Turn main power switch OFF.

Remove pans and racks from compartment and wash in sink.

Wash compartment interior with clean water. Never use steel wool or abrasive scouring pads as they will scratch and ruin the general surface appearance of your steamer.

Use warm soapy water with a cloth or sponge to clean the door gasket, rinse with warm clear water, and wipe with a dry cloth.

Wipe surfaces which touch the door gasket with a cloth or sponge and warm soapy water, rinse with warm clear water and wipe with a dry cloth. **CAUTION**: **Do not allow the door gasket to come in contact with food oils, petroleum solvents, or lubricants.**

Keep the cooking compartment drain working freely. After cooking grease producing foods, operate the steamer with the compartment empty for 30 minutes at the end of the day, or pour 1/2 gallon of warm soapy water down the drain, followed by 1/2 gallon of warm clear water.

Use a clean damp cloth to wipe down the exterior of your steamer.

Leave the door slightly open when the steamer is not in use to allow the inside to dry out.

Weekly, or more often if necessary . . .

Clean exterior with a damp cloth and polish with a soft dry cloth.

Use a non-abrasive cleaner to remove discolorations.

COOKING GUIDELINES

The steamer steam cooks vegetables, frankfurters, eggs in their shells, and certain other meats or food items at atmospheric pressure.

These cooking guidelines are suggestions only. You should experiment with your food products to determine the cooking times that will give you the best results. Variables which affect cooking time include size, weight, thickness of foods, temperature, density, previous condition of the foods (fresh, pre-blanched or frozen) and degree of doneness desired.

COOK IN SOLID PANS

PRODUCT	TIME (minutes)	WEIGHT PER PAN
Eggs, Scrambled	10 – 12	8 Doz.
Rice, Long Grain (Cover with 4 cups water per pound.)	25	2 Lb.
Pasta (Place perforated pan inside solid pan, cover pasta with cold water)		
Spaghetti, Regular / Vermicelli	12 – 15	
Macaroni, Shells/Elbows	15 – 18	
Noodles, 1/2" wide	12 – 15	
Lasagna Noodles	15 – 18	
Frozen Casseroles, Lasagna	35	Full Pan
Meat Loaf, 3 – 5 pound each	40	15 Lb.
Beef		
Ground Chuck	20 – 25	10 Lb.
Sliced as Purchased	35 – 40	10 Lb.
Shrimp, Frozen, 10 per pound	5	4 Lb.
Beans		
Baked	9	10 Lb. Can
Refried	9	10 Lb. Can
Canned Vegetables	6	10 Lb. Can
Prunes, Dried	12 – 15	

COOK IN PERFORATED PANS

PRODUCT	TIME (minutes)	WEIGHT PER PAN
SEAFOOD		
Clams		
Frozen	10 – 12	3 Doz.
Fresh, Cherrystone	5 – 6	3 Doz.
King Crab, Frozen		
Claws	4	2 1/2 Lb.
Legs	4 – 6	4 1/2 Lb.
Lobster Tail, Frozen	6	10 Lb.
Lobster, Live, 10 – 12"	5	4 Per Pan
Salmon Fillets, Frozen, 8 ounce each	5	7 1/2 Lb.
Scallops, Fresh	4	3 Lb.
Scrod Fillets, Fresh	3 – 5	4 Lb.
Eggs		
Hard Cooked	15	4 Doz.
Soft Cooked	9 – 10	4 Doz.
Soft Yoke for Caesar Salad	6 – 8	4 Doz.
Chicken — Breasts, Legs, Thighs	20	15 Lb.
Turkey, Frozen		
Breasts (2)	90	6 – 7 Lb. Each
Cut Lengthwise	55	20 – 25 Lb.
Corned Beef	40 – 75	6 – 8 Lb.
Hot Dogs or Wieners	3	80 – 100 Count
VEGETABLES		
Asparagus Spears		
Frozen	10 – 12	3 Doz.
Fresh	5	5 Lb.
Beans		
Green, 2" Cut, Frozen / Fresh	6	5 Lb.
Lima, Frozen	8	5 Lb.
Baby Lima, Frozen	5	5 Lb.
Brussel Sprouts, Frozen	6	5 Lb.

COOK IN PERFORATED PANS

PRODUCT	TIME (minutes)	WEIGHT PER PAN
VEGETABLES, (Cont'd.)		
Broccoli		
Spears, Frozen	8	4 Lb.
Spears, Fresh	6	5 Lb.
Flowerettes, Frozen	6	5 Lb.
Cabbage, Fresh, 1/6 Cut	8	5 Lb.
Carrots		
Baby Whole, Frozen	8	7 Lb.
Crinkle Cut, Frozen	7 – 8	4 Lb.
Sliced, Fresh	11	9 Lb .
Cauliflower, Flowerettes		
Frozen	6	4 Lb.
Fresh	7 – 8	5 Lb.
Celery, 1" Diagonal Cut	7	5 Lb.
Corn		
Yellow Whole Kernal, Frozen	5	5 Lb.
Cobbettes, Frozen	8	27 Ears
	16 – 18	80 Ears
Corn-On-Cob, Fresh	10 – 12	18 Ears
	16 – 18	54 Ears
Peas, Green	6	5 Lb.
Potatoes, Whole Russet	55	40 Lb.
Spinach		
Chopped, Frozen	17	6 Lb.
Defrosted	5	6 Lb.
Fresh Cut	3	2 Lb.
Squash, Acorn Halves	25	10 Halves
Zucchini, Slices	8	10 Lb.
Frozen Mixed Vegetables	6 – 7	5 Lb.
FRUIT		
Fruit, Blanch for Peeling, Grapefruit, Oranges	3	
Pineapple, Whole for Cutting	4	

MAINTENANCE

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REMOVAL OF LIME SCALE DEPOSITS

The steamer should be delimed once a month, or more often if necessary, if a build-up of lime scale deposits is present. Use the CLR TREATMENT KIT available from your Vulcan-Hart authorized service office. Follow the instructions in the Kit to delime the steam generator.

COLD WATER CONDENSER

The steamer is equipped with a cold water condenser in the rear of the cooking chamber which helps to condense the steam prior to discharge into the drain. The steamer freely vents itself by the negative pressure created by the condensate water drainage. This negative pressure prevents steam leakage around the door gasket and helps draw the steam through the cooking compartment. Steam leakage at the door may indicate a plugged or improperly installed drain.

SERVICE

Contact your local Vulcan-authorized service office for any repairs or adjustments needed on this equipment.